EV Innovative Design

EVID C12.2 User Manual

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Safety First

Suspending any object is potentially dangerous and should only be attempted by individuals who have a thorough knowledge of the techniques and regulations of rigging objects overhead. Electro-Voice® strongly recommends that all speakers be suspended taking into account all current national, federal, state and local regulations. It is the responsibility of the installer to ensure that all speakers are safely installed in accordance with all such regulations. When speakers are suspended, Electro-Voice® strongly recommends that the system be inspected at least once a year. If any sign of weakness or damage is detected, remedial action should be taken immediately. The user is responsible for making sure that the supporting surfaces, and any additional hardware used, is capable of supporting the loudspeaker. Any hardware used to suspend a loudspeaker array that is not provided by/associated with Electro-Voice® is the responsibility of others.

Packing List

Figure	Quantity	Part
A	1	Speaker System
B	1	Grille
C	1	Owner's Manual
D	1	Terminal Connector
E	1	Warranty Card
F	1	Ceiling Cutout Template
G	1	Paint Shield
H	2	Tile Rails
I	1	C-Ring Support
J	2	Support Ring Screws

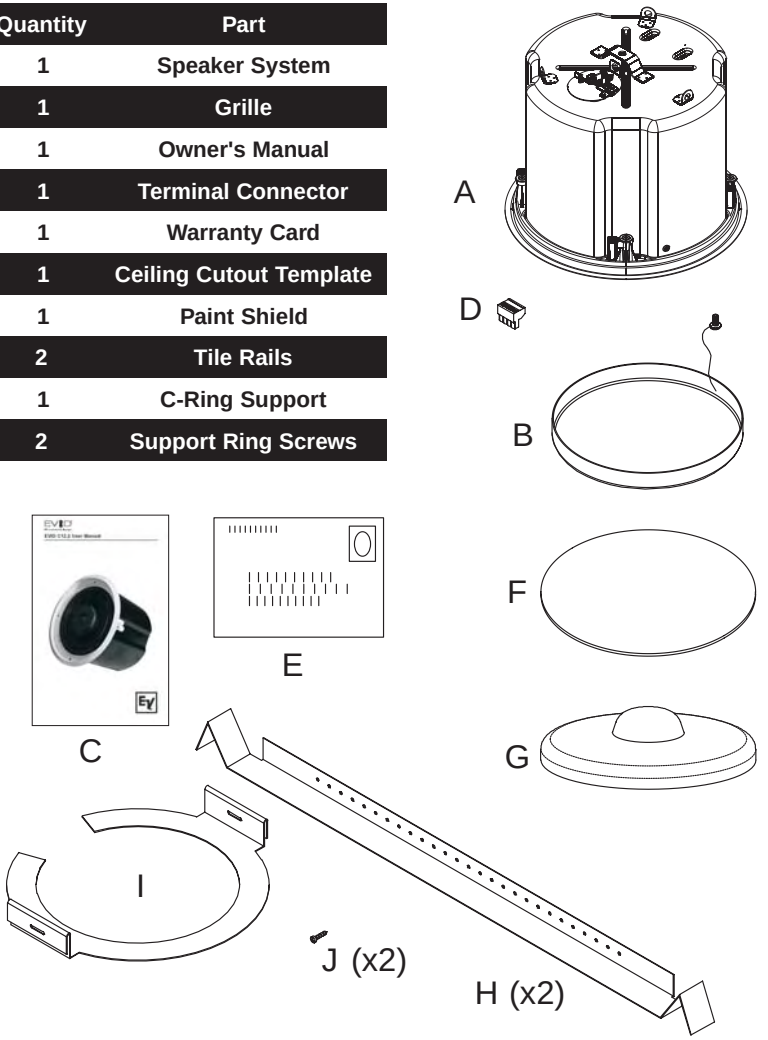

Figure 1: EVID C12.2 Packing List

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EVID™ C12.2 Models

Model	Part No.	Description
C12.2	301920-000	12" Coaxial Speaker System, Consists of CE-12 and EVID 920-8B Assembled, 64W Transformer with ASC*
CE-12	301921-100	12" Enclosure for EVID 920-8B, Includes 64W Transformer with ASC*
EVID 920-8B	901922-100	High-Efficiency 12" Coaxial Driver, 100 dB Sensitivity, 200W Power Handling

*Automatic Saturation Compensation

Product Feature Identification

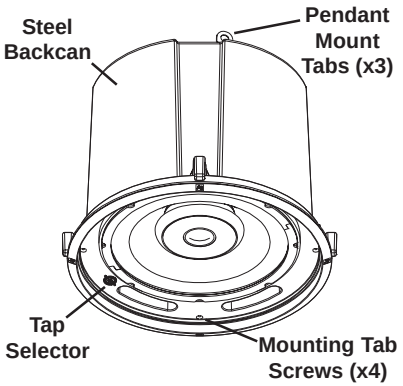

Figure 2: Bottom of Speaker

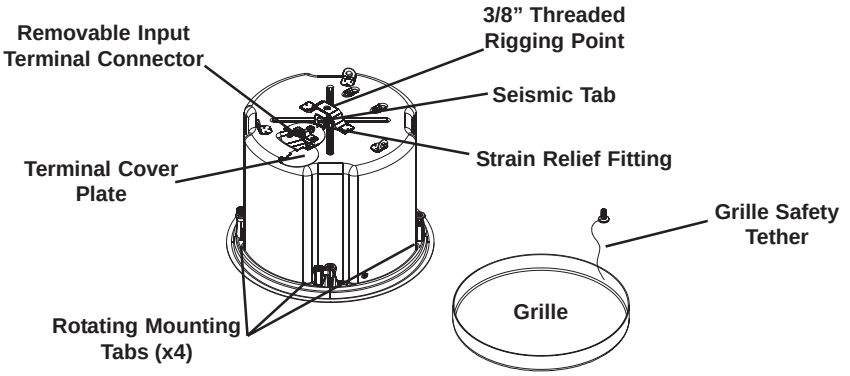

Figure 3: Top of Speaker

Open Ceiling Installation

The EVID C12.2 must be suspended from the back of the can in both open ceiling and ceiling tile applications, using either the 3 pendant mount tabs or the 3/8" threaded rigging point. To prevent rattles, rotate the 4 mounting tabs towards the can, then tighten the mounting tab screws.

The seismic tab may be used in addition to the pendant mounts as a redundant safety point.

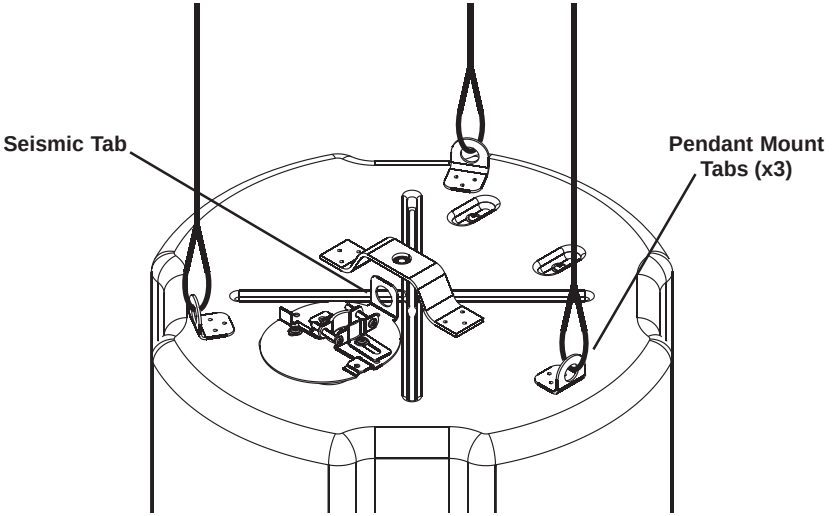

Figure 4a: Pendant Mount Suspension

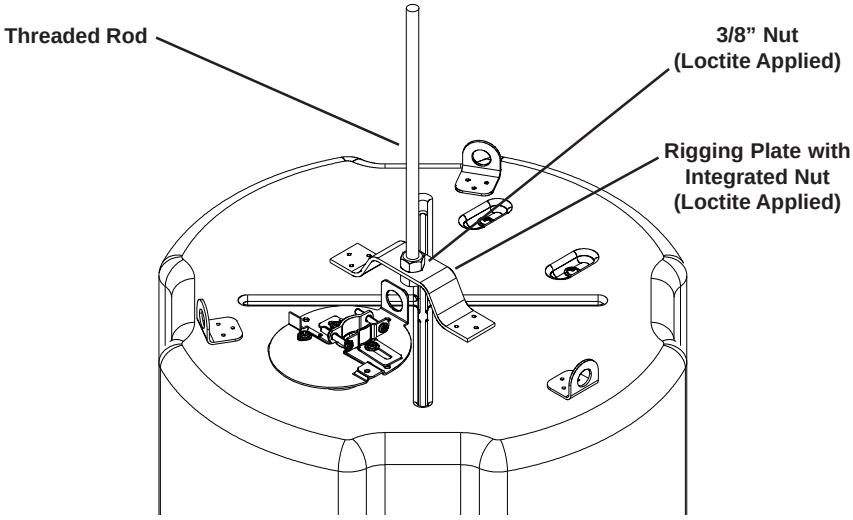

Figure 4b: 3/8" Threaded Rod Suspension

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Ceiling Tile Installation

Step 1: Cut the Hole (Figure 5)

Cut out the hole by tracing the cardboard template or with a circular cutter set to the appropriate cutout size. If the wire has been pre-installed, pull the wiring through the cutout hole.

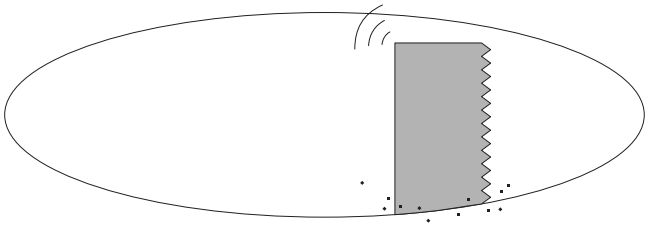

Figure 5: Cut Ceiling Hole

Step 2: Install C-Ring and Tile Rails (Figure 6)

For suspended ceiling installations, insert the C-ring through the hole cut in the ceiling tile. Place the C-ring around the hole with the tabs located as shown in Figure 6. Insert the tile rails through the cut hole in the ceiling tile. Snap the two rails into the two tabs in the C-ring and align the rails so that the ends extend OVER the T-channel grid on the side of the tile. Secure the rails onto the C-ring tabs by inserting a screw though each tab into the rail, as shown in Figure 6.

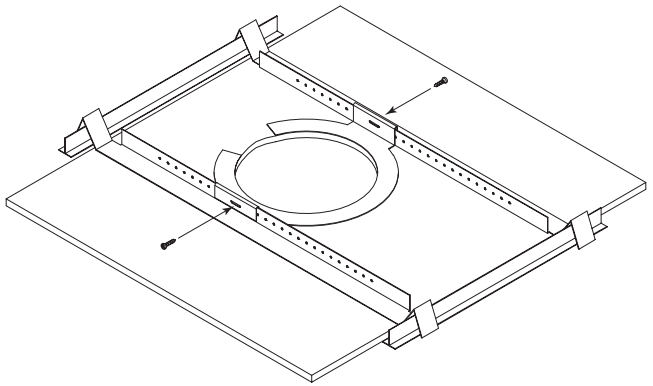

Figure 6: Secure Rails to C-Ring

Installation Note: Tile Rails and C-Ring

The tile rail accessory is designed to fit either standard 24-inch-wide or 600-mm-wide tiles. It is important to note that the tile rail pieces do not actually attach to the T-grid struts.The ends of the rails sit OVER the T-grid strut. Normally, the tile supports the rails. The tile rails are pre-punched at regular intervals with holes along their length.This allows the C-ring to be positioned at any point along the rail. If the tile comes out or falls apart, the ends of the support rails fall onto the T-grid, which prevents the speaker assembly from falling. Always use all included support hardware when installing into suspended ceiling tiles to make sure the installation is secure. For sheetrock ceiling installations, the tile rail is not needed, but the C-ring should be used to reinforce the ceiling material and to spread out the pressure from the speaker hold-down tabs. Guide the C-ring through the cut hole in the ceiling, and place it on the back side of the hole before inserting the speaker.

Installation Note: Ceiling Tile Caution

When mounting the C12.2 into 2'x2' or 2'x4' suspended ceiling tiles or sheetrock ceilings, DO NOT install the C12.2 without using either the 3/8" threaded rod rigging point or the pendant mounts. Ceiling tiles are not designed to support any substantial weight and will cause the tile to sag and distort, even with the tile bridge installed. If the cables are used, they MUST be strung taut. The threaded rod or cables MUST support most of the weight of the speaker to ensure that the C12.2 does not deform the ceiling.

Step 3: Attach Wiring to the Terminal Connector (Figure 7)

Insert the bare end of wire into the appropriate connector terminals as described below and screw down the hold-down screw until tight, using a small screwdriver.

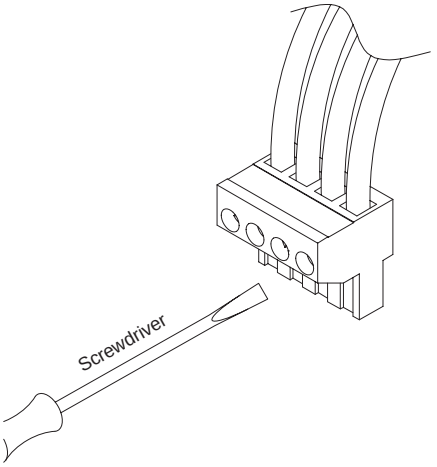

Figure 7: Tighten with Screwdriver

Installation Note: Connector Wiring Guidelines

The input connector's 4 terminals are numbered and marked on the connector. Pins 1 and 2 are positive (+); pins 3 and 4 are negative (–). (Pin 1 is connected to Pin 2 and Pin 3 is connected to Pin 4 inside the speaker.) Pins 1 and 4 are used as daisy-chain connections to other loudspeakers.

For wiring in parallel, connect the wire pair of the subsequent speaker to pins 1 and 4. When one input connector is removed, subsequent speakers will also be disconnected. See Figure 8.

When all wiring has been completed to the connector, plug the connector into the socket in the speaker's terminal cup. See Figure 9. Tighten all screws to eliminate vibration.

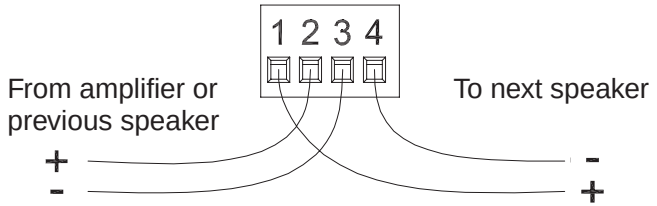

Figure 8: Parallel Wiring

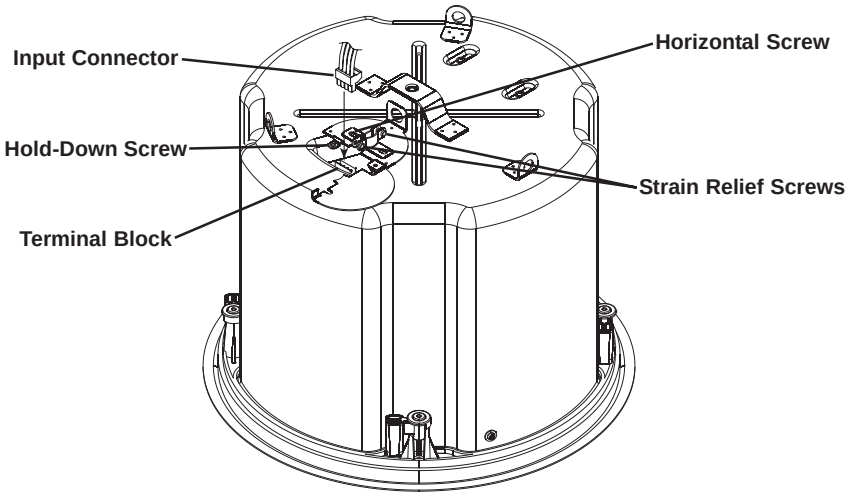

Figure 9: Plug Connector into Socket

Step 4: Secure the Cable to the Speaker (Figure 10)

Fully loosen the horizontal screw shown in Figure 9, then the strain relief screws. Run the wires through the opening in the fitting and plug the input connector into the speaker's terminal block. Then tighten the strain relief fitting as follows:

If plenum cable is used, slide the cable through the strain relief fitting on the terminal cover plate (Figure 10). Hold the strain relief fittings tight around the cable. Tighten the strain relief screws first, then the horizontal screw. In the cases of insulated speaker wire and plenum cable, it is often possible to provide acceptable strain relief force by simply tightening the strain relief screws onto the terminal cover plate.

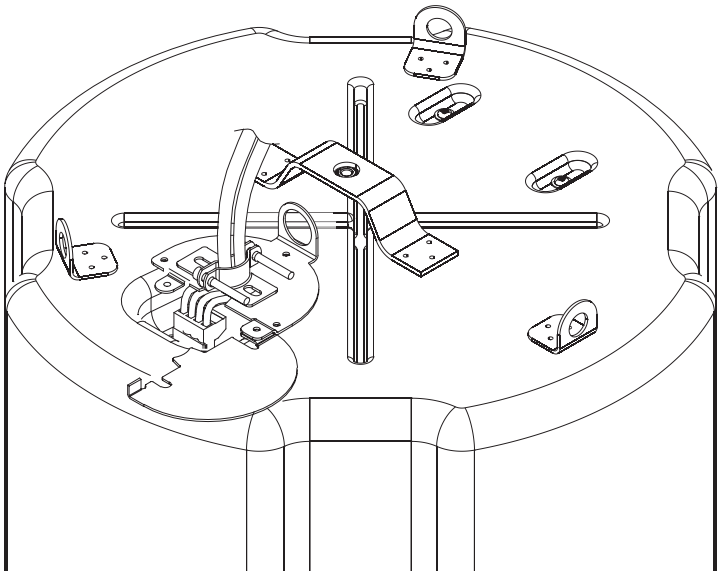

Figure 10: Secure Cable through Fitting

Step 5: Mount the Speaker Into the Ceiling (Figure 11)

Push the speaker into the ceiling hole until the front baffle rim is flush with the ceiling. Tighten the mounting tabs by turning the screw clockwise until the speaker is secure. Please note that the first clockwise quarter turn rotates the attachment tabs outward. The remaining turns tighten the tabs down onto the back of the ceiling surface (see Figure 12).

Installation Note:

See Page 3 for possible installation methods. If 3/8" threaded rod is to be used in a ceiling tile installation, the threaded rod must be installed to the threaded rigging point before installing into the ceiling.

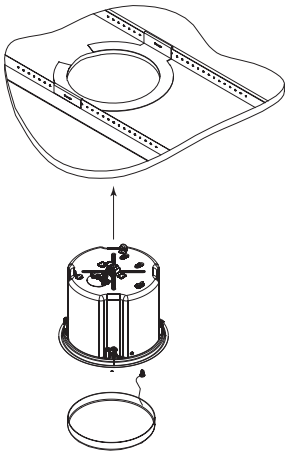

Figure 11: Mount Speaker into Ceiling

Installation Note: Mounting Tabs

For each attachment screw, first turn one half turn counterclockwise to release the counting tab from its guide.

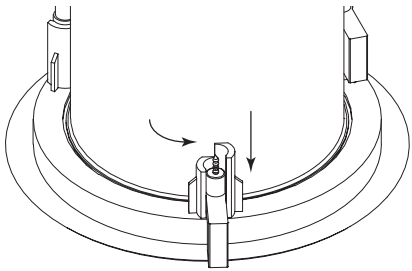

Figure 12: Tighten Mounting Tabs

Step 6: Connect an Safety Support Line (Figure 13)

Note the support ring on the back of the speaker. The ring allows for connection to an independent and secure anchor point. Construction codes often require the use of this secondary support point.

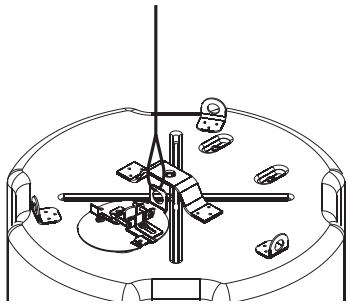

Figure 13: Attach Safety Support Line

Step 7: Adjust Tap Selector (Figure 14)

The tap selector switch is located on the front baffle. Adjust the speaker to the appropriate tap setting before installing the grille. In some 70V/100V constant voltage installations it is advisable to leave the grilles off if final speaker audio level balance adjustments are to be made later. After the levels are adjusted the grilles can then be installed.

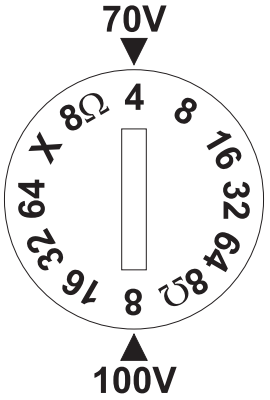

Figure 14: Adjust Tap Selector

Step 8: Attach the Grille (Figure 15)

Installation Note: Grille Safety Feature

EVID grilles features a unique safety tether to prevent the grille from falling if the grille is removed or comes loose after installation.

First, install the grille's safety tether by pushing the grille fastener into the hole in the front of the baffle (see Figure 15). Second, press the grille into place until the front of the grille is flush with the rim of the baffle. Make sure the grille is securely seated to prevent it from vibrating loose. If you need to remove the grille, the easiest way is to insert two bent paper clips or other pointed objects into holes in the grille, then apply slow even pressure to pull down on the grille until that section of the grille comes out slightly. Continue the same procedure around the perimeter of the grille, loosening a portion at a time until the grille is removed.

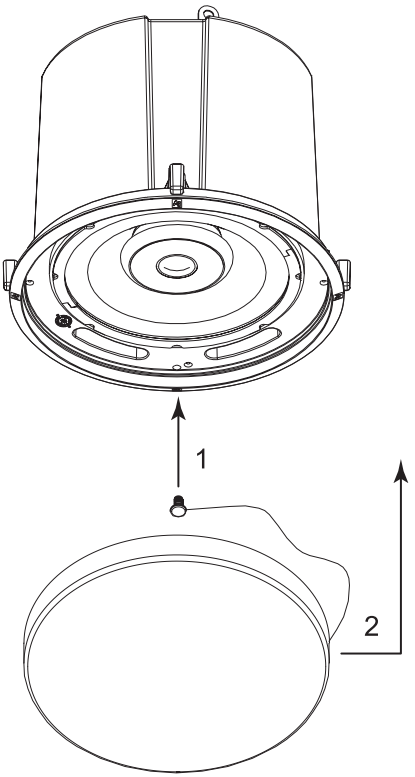

Figure 15: Attach the Grille

Appendix A - Painting the Speaker

If the speaker is installed in an area where the interior design requires a color match, the EVID C12.2 is simple to paint. The speaker can accommodate almost any type of latex or oil based paint. The bezel/rim can be painted before installation or after mounting into the ceiling.

Painting Process

Clean the rim and grille with mineral spirits or other light solvent. Do not use harsh solvents such as gasoline, kerosene, acetone, or other chemicals. If you use these cleaners you may permanently damage the enclosure. Also, don't use abrasives products such as sandpaper or steel wool. Either by rolling or spraying, apply two or more thin coats of paint. If you are spraying, hold the spray can at the angles shown in Figure 17. If you are painting the grille also, you must first remove the internal grille cloth. Spray painting is strongly recommended. If the grille is rolled or brush painted, the grille may become clogged with paint and the sound quality will suffer. After the paint has dried, replace the internal grille cloth. If you wish to paint the speaker along with the ceiling after installation, insert a plastic or cardboard paint shield into the front of the speaker (see Figure 16) to mask the drivers and internal baffle, paint the speaker, then remove the shield.

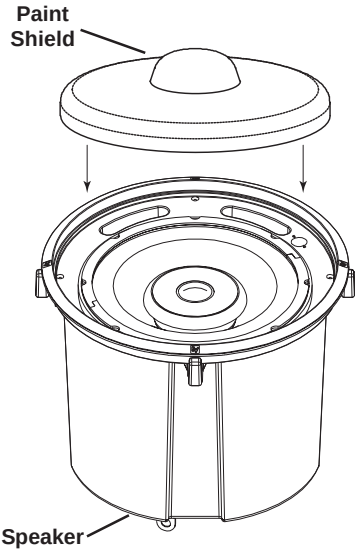

Figure 16: Installing Paint Shield Before Painting

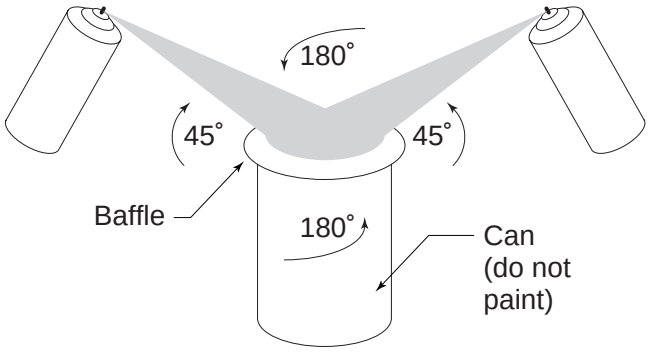

Figure 17: Spray-Painting Angles

Appendix B - Troubleshooting Table

Problem	Possible Causes	Action
No Output	Amplifier	Make sure the amplifier channel is being fed an input signal (preferably via a "signal input" indicator on the amp).
		Check that the amplifier channel's volume is turned up.
		Connect the speaker and cable, which had no output to another amplifier channel, making sure an imput signal is fed to the new ampl channel. If you then get output, the problem was the amplifier channel. If not, then the problem may be in the cable or speaker.
	Speaker Cable(s)	Replace the cable(s) connecting the loudspeaker system and amplifier.
Questionable or Intermittent Output such as Crackling	Faulty Connection	Check all cabling for proper connector contact. A bad connection can result in intermittent contact or dramatically increased resistance, which in turn can cause reduced output or noises unrelated to the signal.
	Improper Power Tap Setting	Check the power tap setting under the speaker grille to ensure the setting is appropriate for the installation and amplifier chosen.
Constant Noise such as Buzzing, Hissing or Humming	A Faulty Electronic Device in the Signal Chain	Since loudspeakers cannot generate these sounds by themselves, you may have a faulty electronic device in the signal chain.
	Poor System Grounding	Check and correct the system grounding, as required.
Poor Low-Frequency Output	Out-of-Polarity Hookup Between Multiple Speakers	When two speakers are hooked up out of polarity (out of phase), the low frequencies cancel each other out. Try reversing the polarity of one of the speakers either by turning around a dual-banana plug at the amplifier or by reversing the tip/sleeve leads on the jack. Whichever condition results in greater low-frequency output is the in-polarity condition.
If none of the suggestions below solves your problem, contact your nearest Electro-Voice service center or Electro-Voice distributor.		

Appendix C - Specifications

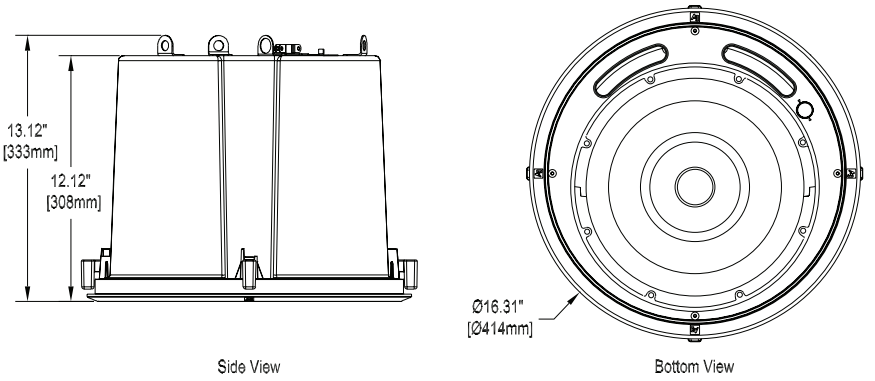

Figure 18: Dimension Drawings

Dimensions (Depth x Diameter):	333mm x 414mm (13.12" x 16.31")
Cutout Diameter:	390mm (15.35")
Weight:	13.3 kg (29.3 lbs)
Cabinet Construction:	Powdercoated Steel Enclosure and UL94V-0 Rated Baffle and Bezel
Transducer:	EVID 920-8B, 12 in. (305 mm) High-Efficiency Coaxial Driver
Mounting System:	Integrated 4-Point Toggle Anchors, Integrated 3-Point Pendant Mount, Additonal Secondary Mount
Available Colors:	White Baffle (Paintable Surface) with Black Rear Can
Grille Construction:	Powder Coated Steel with Safety Tether
Acoustic Design:	Ported Cabinet, Two-Way Design, Internally Damped, Passive Crossover, 64W Transformer with ASC
Frequency Response:	75 Hz - 20 kHz
Power Handling (8 ohms):	100W RMS
Power Handling (70V):	Up to 64W
Power Handling (100V):	Up to 64W
Sensitivity (SPL 1W/1m):	100 dB
Input Configuration:	8 Ohm; 70V/100V
70V Power Taps:	4W, 8W, 16W, 32W, 64W
100V Power Taps:	8W, 16W, 32W, 64W
Accessories:	Tile Bridge, Mounting Ring

Notes

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Part Number LIT000072 Rev C

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Europe, Africa and Middle East only. For customer orders, contact the Customer Service department at **49 9421-706 0 Fax: 49 9421-706 265**

For warranty information, contact the Service Repair department at: **616/695-6831 or 800/685-2606**

For technical assistance, contact Technical Support at: **866/78AUDIO**

Specifications subject to change without notice.